

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
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REVISION OF THE CLASSIFICATION OF FOOD AND FEED: IMPACT OF THE REVISED TYPES IN CLASS C AND CLASS D ON CXLs

(Prepared by the Electronic Working Group chaired by the United States of America
and co-chaired by the Netherlands)

This document should be read in conjunction with relevant working documents and circular letters
under Agenda Items 7(a-c)

BACKGROUND

1. Please refer to CX/PR 20/52/6, paragraphs 1-9 for working principles and decisions made by CCPR in relation to the revision of the Classification of Food and Feed (CXA 4-1989).
2. CCPR agreed that no changes would be made to existing CXLs until such time as the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) reviews were completed as per current procedures for the establishment of Codex schedules and priority list of pesticides. The Committee agreed that the same approach would be taken when reviewing other commodity groups in the database following the adoption of revised commodity groups in the Classification.¹
3. To achieve the above, for relocated commodities a specific CXL² at the level of the old group-CLX will be set, so the relocated commodity will keep its existing CXL. At the same time the commodity will be excluded from the new group-CXL. The exclusion of the CXL from the new group-CXL will be done in the column “notes”. After evaluation by JMPR, it may be appropriate to implement the CXL of the new (sub)group and withdraw the CXL of the old group.
4. The Electronic Working Group on the revision of the Classification proposed relocation of CXLs for commodities under Class C and Class D based on (i) the Terms of Reference (TOR) agreed³ upon by CCPR51 (2019) for the revision both classes and (ii) the discussion, conclusions and recommendations provided under Agenda Items 7(a-c).

CONCLUSION

5. A full overview of the proposed classification of Class C – Primary Animal Feed Commodities can be found in CX/PR 20/52/6 and of Class D – Processed Foods of Plant Origin in CX/PR 20/52/7 (Agenda Items 7a-b). In Appendices I (Class C) and II (Class D) of this document an overview of the changes with possible consequences for the database is given.
6. Appendix III includes the document on “fodder” prepared by Japan for replacing the term “fodder” for “hay” or “straw”, that provides useful background information, describes available data and what MRL could be recommended if the term “fodder” is removed from the Classification. This document should be especially useful for periodic re-evaluations by JMPR and to support comments on the revised Class C.

RECOMMENDATIONS

7. In submitting comments on the revision of Class C and Class D (Agenda Items 7a-c), Codex members and observers are invited to consider the description of the changes in Appendices I and II, and the information provided in Appendix III, so that, following agreement on the revised Classes C and D at CCPR52 (2021), the proposed changes to the Codex database can be implemented.

APPENDIX I

¹ REP13/PR, para. 109; REP16/PR, para. 119

² CXLs or [Codex] MRLs or [existing] MRLs (= Codex maximum residue limits for pesticides as adopted by the Codex Alimentarius Commission)

³ REP19/PR, para. 179

CLASS C: PRIMARY ANIMAL FEED COMMODITIES**(Supporting information when submitting comments on the revision of Class C (Agenda Item 7a))**Changed classification of groups and subgroups

In Type 11 “Primary feed commodities of plant origin” 5 groups with no subgroups exists. In the revised Classification, it is proposed to create 3 groups, with several subgroups.

Existing groups in Type 11

050	Legume animal feeds
051	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (forage)
051	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (straws and fodders dry)
052	Miscellaneous fodder and forage crops (forage)
052	Miscellaneous fodder and forage crops (fodder)

Proposed groups and subgroups in Type 11

050	Legume feed products
	Subgroup 050A: Products of legume feeds with high water ($\geq 20\%$) content (forage and silage)
	Subgroup 050B: Products of legume feeds with low water ($< 20\%$) content (hay)
	Subgroup 050C: Processed products of legume feeds (such as meal, hulls)
051	Cereal grains and grasses (including pseudocereals) feed products
	Subgroup 051A: Cereal grains (including pseudocereals) feed products with high water ($\geq 20\%$) content (forage and silage)
	Subgroup 051B: Cereal grains (including pseudocereals) feed products with low water ($< 20\%$) content (hay, straw)
	Subgroup 051C: Cereal grains (including pseudocereals) processed products (such as bran, hulls)
	Subgroup 051D: Grasses for animal feed
052	Miscellaneous feed products
	Subgroup 052A: Miscellaneous feed products with high water ($\geq 20\%$) content (forage, beet tops)
	Subgroup 052B: Miscellaneous feed products with low water ($< 20\%$) content (hay)
	Subgroup 052C: Miscellaneous processed products (such as meal, hulls, dried pulp, molasses)

New (Sub)groups and (sub)group codes

AL 3300 Subgroup of Products of legume feeds with high water content (forage and silage) (includes all commodities in this subgroup)

AL 3301 Subgroup of Products of legume feeds with low water ($< 20\%$) content (hay) (includes all commodities in this subgroup)

AL 3302 Subgroup of Processed products of legume feeds (like meal, hulls) (includes all commodities in this subgroup)

AF 3303 Subgroup of Cereal grains (including pseudocereals) feed products with high water content (forage and silage) (Includes all commodities in this subgroup)

AS 3304 Subgroup of Cereal grains and (including pseudocereals) feed products with low water content (hay, straw)

AS 3305 Subgroup of Cereal grains (including pseudocereals) processed products (such as bran, hulls), (includes all commodities in this subgroup)

AS 3306 Subgroup of Forage, hay and silage from grasses used for animal feed (includes all commodities (grasses in the Poaceae (Gramineae) family in this subgroup)

AV 3307 Subgroup of Products of high water content (forage, beet tops)

AM 3308 Subgroup of Products with low water content (hay)

Remark: In some (sub)groups minor subgroups with more than one commodity are created e.g. AS 0081, AS 0162

The new codes will not have an impact on the existing CXLs. They will make it more easy to set in future a CXL for those (sub)groups.

New commodities

New commodities are added to the Classification. The following codes has to be added to the database: AL 3493 – AL 3532, AF 3533 - AF 3564 and AS 3565 – AS 3581.

(see Appendix I agenda item 7a for a full overview of commodities included in Class C)

Fodder

Replacing the term fodder for hay or straw. The recommendations in the Japanese document should be the guidance in replacing the term fodder by hay or straw (see Appendix III).

Note: The codes for some commodities in the document on “fodder” prepared by Japan in Appendix III are based on the codes of the draft revision of last year. Because several changes are made in the draft for this year, some codes in this document are not the same as in the proposed revision in 7a

Commodities transferring between Class C and D

None of the transferring commodities is included or will be included in a (sub)group, so there are no consequences for possible (sub)group CXLs

- Processed commodities transferring from Class C (Feed) to Class D (Food)

Transferring commodity	Existing code	Number of CXLs	New code	Action
Sugar beet, pulp, dried	AB 0596	2	AM 0597	Adapt code in database
Sugar beet, pulp, wet*	AB 1201*	*	AM 1201	Adapt code in database

*= no CXLs are set for this code

- Processed commodities transferring from Class D (Food) to Class C (Feed)

Transferring commodity	Existing code	Number of CXLs	New code	Action
Soya bean hulls	AB 0541	4	AL 3534	Adapt code in database
Rice hulls	CM 1207	2	AS 3566	Adapt code in database
Cotton gin trash	AB 1204	1	AM 1204	Adapt code in database
Cotton seed, hulls	AB 0691	1	AM 0691	Adapt code in database
Sweet corn cannery waste	AB 0447	1	AM 3585	Adapt code in database

None of the transferring commodities is included or will be included in a (sub)group, so there are no consequences for possible (sub)group CXLs

APPENDIX II**CLASS D: PROCESSED FOODS OF PLANT ORIGIN****(Supporting information when submitting comments on the revision of
Class D (Agenda Item 7b))**Changed classification into groups and subgroups

Class D contains 5 different types. In the revised Classification, it is proposed to divide the group of Dried herbs and the group of teas in subgroups

(Sub)groups and (sub)group codes

New (sub)group codes

In the table an overview is given of possible actions for the database as result from the revision of the classification.

DH 2095	Subgroup of dried herbs of herbaceous plants
DH 2095	Subgroup of dried herbs of woody plants
DT 1114	Subgroup of Tea, Black, Green (fermented and dried)
DT 0172	Subgroup of Teas - Herbal teas from leaves/blossoms
DT 0173	Subgroup of Teas - Herbal teas from roots

Remark: In some (sub)groups minor subgroups with more than one commodity are created e.g. CF 0080, AS 0162

The new codes will not have an impact on the existing CXLs. They will make it more easy to set in future a CXL for those subgroups.

New commodities

- New commodities are added to the classification. The following codes has to be added to the database: DH 3501- DH 3509, CM 3510, CF 3511-CF 3515, DT 9998-DT 9999, DM 3517-DM 3518
- In case a commodity already occurs in another form in another Class, the number part of the code is the same and the letter part of the code is adapted (e.g. existing code fresh herb HH 0740 Parsley; new code dried herb DH 0740 Parsley, dry).

New codes created in this way are e.g : DH 3289, CM 0640, SM 0715 and JF 0204.

- For hops, the code MU 1100 is replacing, DH 1100, because hops is classified as a miscellaneous commodity

See Appendix I agenda item 7b for a full overview of commodities included in Class D

Commodities transferring between Class C and D

See the chapter about this subject in Appendix I.

APPENDIX III

**INVESTIGATION OF MRLs FOR PESTICIDES RECOMMENDED FOR
FEED COMMODITIES WHOSE NAMES INCLUDE THE TERM “FODDER”**

(Prepared by Japan)

**(Supporting information when submitting comments on the revision of
Class C (Agenda Item 7a))**

INTRODUCTION

1. In the Codex System, Maximum Residue Limits (MRLs) are recommended for foods as well as feeds. Those feed items (not including those commodities also used as foods) for which MRLs have been recommended are (1) primary feed commodities of plant origin, (2) cereal grain milling fractions, (3) byproducts used for animal feeding purposes, derived from fruits and vegetable processing, and (4) some other commodities.
2. The term “fodder” is used in relation to the primary feed commodities of plant origin. The Classification of Foods and Animal Feeds (1993) includes Class C Primary Animal Feed Commodities as follows:

Primary feed commodities of plant origin

No	Letter code	Group
050	AL	Legume animal feeds ^{a/}
051	AF	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (forage)
051	AS	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (straws and fodders dry)
052	AV	Miscellaneous Fodder and Forage crops (forage)
052	AM	Miscellaneous Fodder and Forage crops (fodder)

a/ including forage and fodder commodities

3. For these commodities, the Codex Classification indicates that in view of the wide range of moisture contents in most animal feeds, except straws, moving in commerce, the MRLs should preferably be set and expressed on a “dry-weight” basis.
4. The Codex Committee on Pesticide Residues (CCPR) decided some time ago not to recommend MRLs for forage (fresh products) as the forage commodities are not traded internationally. As a result, among the above feed groups, MRLs have been recommended for fodders in Groups AL, AS and AM. However, three Codex MRL have been recommended for triadimefon (133), flutriafol (248) and acetochlor (280) in “sugar beet leaves or tops (dry)” (AV 0596) which has the term “(dry)” in its name.
5. Within the framework of revising the Codex Classification of Foods and Animal Feeds, the 51st Session of the CCPR in 2019 considered how to revise Class C feed commodities. It considered, “there would be a possible impact of removing the term ‘fodder’, as it could affect existing CXLs for this commodity. It was not clear on which basis the individual CXLs for fodder were set, e.g., on residues in hay or in straw. CCPR further noted the kind offer of Japan to investigate the basis on which the CXLs for fodder and related feed are set.” (REP 19/PR, para. 149) The CCPR agreed to further look into the issue of “fodder” in Class C based on a paper to be prepared by Japan for discussion at CCPR52 (para. 150)

INVESTIGATION PROCESS

6. MRLs recommended for “fodder” commodities with the letter codes AL, AS and AM were extracted from the database of Codex MRLs and MRLs at different steps provided by the Codex Secretariat (Note: as of the 51st CCPR). Those commodities included in the category AV were not included as they are forages except AL 0596. AL 0596 is sugar beet leaves or tops (dry) referring to dry feed item but the description is clear.
7. For those extracted MRLs, the basis of each MRL was investigated using the Evaluations and Reports of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR): first checking the descriptions in the related year’s appraisal (i.e., Report) and, if the information in the appraisal is not clear enough, then checking the descriptions in the same year’s Evaluation.
8. For a number of old MRLs, it was not possible to find detailed information about residue levels or the nature of samples analyzed. In addition, JMPR Evaluations are available from the FAO website for the years 1993-2019 extra; and JMPR Reports for the years 1991-2019 extra. Old Evaluations and Reports have much briefer descriptions about supervised residue trials.

9. In the course of checking the information, no attempts were made to evaluate the residue data or to review the JMPR evaluations. Attempts were made to find the basis for individual MRLs and to extract that information.

RESULTS OF INVESTIGATION

10. In the Codex database, there are 421 MRLs for the group AL, AS and AM (excluding AM 0738 “mint hay” and AM 1051 Fodder beet and related commodities as the commodities for which MRLs are recommended are clear).
11. The situations of each MRL as described in the respective JMPR Report/Evaluation are shown in the tables in the Annex: basis of individual MRLs for “fodder” commodities, availability of separate data on hay, straw and/or related commodities/portions along with the time of JMPR evaluation.
- The JMPR (year) is according to the Codex database and the working document CX/PR 19/51/5.
 - Commodities in the group are in the alphabetical order as much as feasible. If there are related commodities, such as fodder and hay for the same crop, they are placed in a close proximity for easier reference, regardless of the code number.
 - A brief analysis is provided for each commodity in relation to the basis of MRLs: whether hay or straw or any related fodder product.
12. Some specific situations for a number of MRLs are also explained, such as extrapolation from other MRLs, in the “Note to MRL/Descriptions of commodities”. Where some problem is identified, the text in the Note is italicized. Where there is no problem, the Note cell is blank. Information on for what commodity MRLs should be recommended is also included in the table if the term “fodder” is removed from the Codex Classification. Additionally, whether each MRL is expressed on a “dry-weight” basis is also indicated.

Note: How residue data are described and how the samples are called are defined in the Codex Classification of Foods and Animal Feeds as well as in the FAO Manual. However, it depends on the data submission. Sometimes, the same term may be used differently, or the same type of samples may be called differently.

Points to consider

13. This section is to be read in conjunction with the information in the Annex.
- Commodity names (taken from the online Codex database (commodities))
 - AL group

For some commodities/crops, there are separate entries for “fodder” and “hay”: for alfalfa, bean, peanut and soya bean. On the other hand, there are “Pea hay or Pea fodder (dry)” (AL 0072) and “pea hay” (AL 3353), differently from the aforementioned commodities. If the term “fodder” is to be deleted, it is necessary to consider an alternative term(s), such as “straw” to replace the term “fodder”. A number of MRLs are estimated on a basis of “straw data”.
 - AS group

For the individual commodities, the names refer to either “straw and fodder, dry” or “fodder”. It is absolutely critical to have clear definitions for related terms, such as “hay”, “straw” and stover.
 - AM group

Except fodder beet and related commodities, the commodity names refer to “fodder”.
 - Basis of MRLs

For many commodities, the basis of MRLs is either hay or straw/stover. Other commodities may refer to only one type of “fodder”. In the former case, the term fodder can be separated into two different commodities, for example, hay and straw, or hay and stover. However, the trade volume of these commodities should be taken into consideration for decision making. In the latter case, the term fodder can be changed to other name. In both cases, it is extremely important to have clear definitions for each commodity and data submission shall use the terms according to the definitions, so that it will be clear for JMPR about the nature of samples analyzed for residues.
 - New MRLs?

If one commodity is separated into two commodities, the current MRL is maintained for one of them and there may be a need to establish a new MRL for the other. Some MRLs can be recommended also as new MRLs or new MRLs can be recommended at future periodic reevaluation. It should be noted that with the revision of feeds, there may be a need for re-evaluating the residue data, which should be done at future periodic review occasions. For old MRLs, there may be different MRL recommendations in the future because the OECD⁴

⁴ Organization for Economic Cooperation and Development

Calculator is now used by JMPR while it was not in the past.

- Extrapolation

There are a number of MRLs extrapolated from other recommendations. It is done on the condition that: (1) Good agricultural practice (GAP) is the same or similar, and (2) residue populations are similar. Even after the revision of the fodder commodities, the same extrapolation can be maintained.

- MRLs for sugar cane fodder

There are two MRLs for sugar cane fodder. However, they are recommended on a basis of sugar cane forage. There may be a need for CCPR to consider whether to retain these MRLs or not. Other MRLs for forage crops have already been revoked.

14. For individual commodities, some analysis can be found in the tables in the Annex. The analysis is on the assumption that straw was obtained at the time of normal harvest or later and hay before the normal harvest time, although there are exceptions to these definitions or there were no detailed explanations in the JMPR Evaluations/Reports.

Additional issues identified

15. The issues below were identified during the course of this work. While not directly related to the revision of feed classification, the CCPR may need to consider how to deal with them.

Dry weight basis

16. Among the extracted MRLs for fodder-related commodities, there are inconsistencies among the expression on dry weight basis. There are a number of cases:
 - Set and expressed on a dry weight basis: with
 - Footnote “(dw)” next to the MRL, and
 - Footnote “(DM)” next to the MRL; or
 - Without any indication of dry-weight basis
 - No indication of dry weight basis without any footnote
 - In the text, indication of “as received” or “fresh weight”
 - No mention of dry weight or as received, perhaps because “Straws” are exempted from the expression of “dry weight basis” according to the Codex definition for fodder (see para.3 of this paper)
17. It should be noted though, as the dry matter is around 90% of the “fodder”, whether the MRL value is expressed on a dry weight basis or not will not make significant difference. However, the Codex Secretariat can adjust the footnotes accordingly.

MRLs for 9 pesticides (replacing the MRLs for Apple pomace, dry)

18. There are 9 MRLs for Sweet corn fodder, dry included in the Codex database as well as the working document for each CCPR session containing all existing MRLs: fenarimol, fenbuconazole, fludioxonil, flusilazole, imidacloprid, methoxyfenozide, novaluron, pyrimethanil and spirodiclofen. However, related information or the basis of these MRLs could not be found in JMPR Evaluations or Reports.
19. Further investigation was made using all the reports of the Codex Alimentarius Commission and CCPR, and working documents prepared for the sessions of CCPR. It was found that these MRLs currently existing for sweet corn fodder are at the same values as those recommended by the JMPR and adopted by the Codex Alimentarius Commission for AB 0226 apple pomace, dry. These MRLs for apple pomace, dry are not included in the current Codex database despite their adoption by the Commission without any information about revision or revocation. It seems that these MRLs for sweet corn fodder (not adopted by the Commission) inadvertently replaced those for apple pomace, dry. Therefore, these MRLs for apple pomace, dry, shall be reinstated in the Codex database while those for the respective pesticides in sweet corn fodder shall be removed from the database as they were not adopted by the Commission. This problem can be solved by the Codex Secretariat.

Note: The codes for some commodities in this document are based on the codes of the draft revision of last year. Because several changes are made in the draft for this year, some codes in this document are not the same as in the proposed revision in agenda item 7a

Annex: Individual MRLs

1. AL Group: Legume Animal Feeds

(only “fodder” commodities are shown below: “forage” commodities are not shown)

Code	Commodity name	Table Number in the Annex
AL 0157	Legume animal feeds	1.1
AL 0061	Bean fodder	1.3.1
AL 0072	Pea hay or Pea fodder (dry)	1.6.1
AL 1020	Alfalfa fodder	1.2.1
AL 0524	Chick-pea fodder	1.4
AL 1031	Clover hay or fodder	1.5
AL 0697	Peanut fodder	1.7.1
AL 0541	Soya bean fodder	1.8.1
AL 3350	Alfalfa hay	1.2.2
AL 3351	Bean hay	1.3.2
AL 3352	Peanut hay	1.7.2
AL 3353	Pea hay	1.6.2
AL 3354	Soya bean hay	1.8.2

1.1 AL 0157 Legume animal feeds

- The MRL recommendations are mostly based on the hay data.
- Except for Spirotetramat, the basis of MRLs is rotational crop study data.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	3	2015	-	o	X		3	x		DW	Based on follow-up alfalfa hay and clover hay.
Cyantraniliprole	0.8	2013	-	o	X		0.8	x		DW	<i>On a dry weight basis</i> Based on the combined dataset of hay of alfalfa, clover, bean, pea, peanut and soya bean grown as follow-up crops.
Myclobutanil	0.2	2014	PR	o	o		0.2	o		DW	Based on soya bean hay and consideration of crop rotation.
Spirotetramat	30	2011	-	o	X		30	x		DW	<i>On a dry weight basis.</i> Based on hay of soya bean cowpea and pea

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.2 Alfalfa

1.2.1 AL 1020 Alfalfa fodder

- All of the MRL recommendations, for which information was found, are based on hay data.
- The Commodity name can be changed to alfalfa hay.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azinphos-Methyl	10	1991		○	X		10	x		?	Only in the recommendation table for AL 1020 Alfalfa hay (no Evaluation available)
Bentazone	0.5	2013	PR	○	X		0.5	x		DW	
Chlorantraniliprole	50	2010	-	○	X		50	x		DW	
Chlorpyrifos	5	2000	PR	○	X		5	x		DW	
Clethodim	10	1997	-	○	X		10	x		-	
Cypermethrins (including alpha- and zeta- cypermethrin)	30	2008	PR	○	X		30	x		-	
Disulfoton	5 (dw)	1991	-	?	?		5?	5?		?	Only in the recommendation table for AL 1020 Alfalfa fodder (dry weight) (no Evaluation available)
Flumioxazin	3 (dw)	2015	-	○	X		3	x		-	
Glyphosate	500	2005	PR	○	X		500	x		DW	
Imazamox	0.1 (*)	2014	-	○	X		0.1(*)	x		AR	
Indoxacarb	60	2005	-	○	X		60	x		DW	
Methomyl	20	2001	PR	○	X		20	x		-	Based on the use of thiodicarb
Norflurazon	7 (DM)	2018	-	○	X		7	x		DW	
Pendimethalin	4 (dw)	2016	-	○	X		4	x		DW	

Penthiopyrad	20 (DM)	2012	-	o	X		20	x		DW	
Permethrin	100	<1991		?	?		?	?		?	No information found
Pyraclostrobin	30	2011	-	o	X		30	x		DW	
Saflufenacil	0.06	2016	-	o	X		0.06	x		DW	<i>On a dry weight basis.</i>

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.2.2 AL 3350 Alfalfa hay

- If the name of AL 1020 is changed to alfalfa hay, the MRLs below can be under that commodity name.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	30 (dw)	2016	-	o	X		30	x		DW	
Fluxapyroxad	20 (DM)	2018	-	o	X		20	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.3 Bean

1.3.1 AL 0061 Bean fodder

- About a half of MRLs are based on hay data and others on straw data.
- There may be a need to have hay and straw as separate commodities, without using the term “fodder”.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ^{d/} ?	Note to MRL/ Description of commodity in the Evaluation
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Clethodim	10	1999	-	○	x		10	x		DW	
Cyantraniliprole	40 (DM)	2015	-	○	x		40	x		DW	
Cypermethrins (including alpha- and zeta- cypermethrin)	2	2008	PR	x	○		x	2		-	
Dimethenamid-P	0.01 (*)	2005	-	x	○		x	0.01 (*)		DW	
Fluazifop-p-butyl	7 (dw)	2016	-	x	○		x	7		DW	
Fluopyram	70	2017	-	○	x		70	x		DW	<i>On a dry weight basis</i>
Glufosinate-Ammonium	1	2012	PR	x	○		x	1		DW	
Glyphosate	200	2005	PR	x	○		x	200		DW	
Methomyl	10	2001	PR	○	x		10	x		DW	
Pendimethalin	0.3 (dw)	2016	-	x	○		x	0.3		DW	
Sedaxane	0.01 (*)	2014	-	○	x		0.01(*)	x		-	Residues in bean and pea hay from all the trials were <0.01 mg/kg.

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.3.2 AL 3351 Bean hay

- The MRL can be merged with a new commodity of “bean hay”
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	30	2016	-	o	x		30	x		DW	<i>On a dry weight basis.</i>

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.4 AL 0524 Chick-pea fodder

- There is only one MRL, not sufficient for analysis.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Isoxaflutole	0.01 (*)	2013	-	x	o		x	0.01(*)		-	

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, what MRLs should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.5 AL 1031 Clover hay or fodder

- Only one MRL, insufficient for analysis. Only hay data.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azinphos-Methyl	5	1991		○	x		5	x		-	Only in the recommendation table for AL 1031 clover hay (no Evaluation available)
Disulfoton	10	1975	-	?	?		10?	10?		?	The 1991 JMPR confirmed the MRL recommended by the 1975 JMPR as temporary MRL. No detailed information available on the 1975 Evaluation.
Imazethapyr	1.5 (dw)	2016	-	○	x		1.5	x		DW	

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.6 Pea

1.6.1 AL 0072 Pea hay or pea fodder

- The majority of MRLs are based on hay data. About one third of them are based on straw.
- There were some cases where only straw data were submitted.
- Hay and straw (or any other appropriate name) can be maintained as separate commodities, without using the term “fodder”

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azoxystrobin	20	2013	-	x?	x	plant	20?	?		DW	Residues in plant
Benzovindiflupyr	8 (dw)	2016	-	o	x		8	x		DW	
Bifenthrin	0.7	2010	PR	o?	x	o?	0.7?	0.7?		DW	"Hay or fodder" without detailed description
Clothianidin	0.2 T	2010	-	o	x		0.2 T	x		DW	
Cyantraniliprole	60 (DM)	2015	-	o	x		60	x		DW	
Cypermethrins (including alpha- and zeta- cypermethrin)	2	2008	PR	x	o		x	2		DW	
Diquat	50	2013	PR	x	o		x	50		DW	<i>On a dry weight basis.</i>
Flubendiamide	40	2010	-	o	x		40	x		-	Based on the combined dataset of pea and cowpea hay.
Fluopyram	100	2017	-	o	x		100	x		DW	<i>On a dry weight basis</i>
Fluxapyroxad	40	2012	-	o	x		40	x		DW	
Glyphosate	500	2005	PR	x	o		x	500		DW	
Imazamox	0.05 (*)	2014	-	x	Pod+ hauhm		x	0.05(*)		-	
Methiocarb	0.5	2005	-	o	X		0.5	x		DW	
Penthiopyrad	60 (DM)	2012	-	o	x		60	x		DW	
Picoxystrobin	150 (dw)	2017	-	o	x		150	x		DW	

Piperonyl Butoxide	200	2001	PR	○	x		200	x		DW	
Pirimicarb	60	2006	PR	?	?		?	?		DW	<i>On a dry weight basis. Based on pea vines and empty pods (25% dry matter for pea vines)</i>
Pyraclostrobin	30	2004	-	○	x		30	x		DW	<i>On a dry weight basis.</i>
Pyrethrins	1	2000	PR	○	x		1	x		DW	<i>On a dry weight basis Based on the combined dataset of bean and pea hay but the recommendation was only for pea hay or fodder.</i>
Pyrimethanil	3	2007	-	x	○		x	3		-	
Quintozene	0.05	1998	PR	○	○		0.05	0.05?		-	
Sedaxane	0.01 (*)	2014	-	○	x		0.01(*)	x		-	Residues in bean and pea hay from all the trials were <0.01 mg/kg.
Thiamethoxam	0.3	2010	-	○	x		0.3	x		DW	

1.6.2 AL 3353 Pea hay

- There is only one MRL, not sufficient for analysis.
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	50 (dw)	2016	-	o	x		50	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.7 Peanut

1.7.1 AL 0697 Peanut fodder

- A majority of MRLs are based on hay data and two others on straw data.
- Data were submitted only for hay or straw.
- There may be a need to have hay and straw as separate commodities, without using the term “fodder”.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azoxystrobin	30	2008	-	○	x		30	x		DW	
Benzovindiflupyr	15 (dw)	2016	-	○	x		15	x		DW	
Carbendazim	3 Th	2003	PR	○	x		3 Th	x		DW	
Diflubenzuron	40	2011	-	○	x		40	x		-	
Dimethenamid-P	0.01 (*)	2005	-	x	○		0.01 (*)	0.01 (*)		-	Fodder means the vines (without pods) sampled at normal harvest, after drying in the field.
Dithiocarbamates	5 c	1993	PR	x	x		5 c	x		-	
Fenbuconazole	15	2009	-	○	x		15	x		-	
Fluopyram	47	2017	-	○	x		47	x		DW	On a dry weight basis
Flutriafol	20	2011	-	○	x		20	x			
Haloxifop	5	2009	PR	x	○		x	5		DW	
Imidacloprid	30	2008	-	○	x		30	x		DW	
Indoxacarb	50	2005	-	○	x		50	x		DW	
Methoxyfenozide	80	2009	-	○	x		80	x		DW	
Penthiopyrad	30 (DM)	2012	-	○	x		30	x		DW	
Prothioconazole	15	2014	-	○	x		15	x		-	
Pyraclostrobin	50	2004	-	○	x		50	x		DW	On a dry weight basis.
Tebuconazole	40	2011	PR	○	x		40	x		-	
Trifloxystrobin	5	2004		○	x		5	x		DW	

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.7.2 AL 3352 Peanut hay

- There is only one MRL, insufficient for analysis
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	30 (dw)	2016	-	o	x		30	x		DW	

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.8 Soya bean

1.8.1 AL 0541 Soya bean fodder

- All except one MRLs (on which information was found) are based on hay.
- For no pesticides, data were submitted on hay only.
- The commodity name can be changed to soya bean hay.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	0.01 (*)	1998	PR	?	?		0.01(*)?	?			Based on air-dried forage data
Azoxystrobin	100	2008	-	o	x		100	x		DW	
Carbaryl	15	2002	PR	o	x		15	x		DW	On a dry weight basis
Carbendazim	0.1 C	1998		x	x		x	x		-	Proposed for withdrawal by the 1998 JMPR
Chlorfenapyr	7 (DM)	2018	-	o	x		7	x		DW	
Cyantraniliprole	80 (DM)	2015	-	o	x		80	x		DW	
Cyfluthrin/beta-cyfluthrin	4	2012	PR	o	x		4	x		DW	
Cyproconazole	3	2010	-	o	x		3	x		-	
Fluazifop-p-butyl	4 (dw)	2016	-	o	x		4	x		DW	
Flubendiamide	60	2010	-	o	x		60	x		-	
Fluopyram	35	2017	-	o	x		35	x		DW	On a dry weight basis
Fluxapyroxad	30	2012	-	o	x		30	x		DW	
Imazamox	0.01 (*)	2014	-	o	x		0.01(*)	x		AR	
Imidacloprid	50	2015	-	o	x		50	x		DW	
Methomyl	0.2	2001	PR	o	x		0.2	x		DW	

Paraquat	0.5	2004	PR	o	o	o	0.5	-	-	DW	Mostly for hay. But some data were for "hay or fodder" and "fodder"
Penthiopyrad	200 (DM)	2012	-	o	x		200	x		DW	
Permethrin	50	<1991		?	?		?	?		?	Temporary MRL estimated in 1980. No information was found.
Picoxystrobin	5 (dw)	2017	-	o	x		5	x		DW	
Propiconazole	5	2007	PR	o	x		5	x		-	
Quintozene	0.01 (*)	1998	PR	o	x		0.01 (*)	x		DW	
Sulfoxaflor	3	2011	PR	o	x		3	x		-	
Tioxazafen	0.4 (DM)	2018	-	o	x		0.4	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.8.2 AL 3354 Soya bean hay

- There are only two MRLs, insufficient for analysis.
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	40 (dw)	2016	-	○	X		40	x		DW	
Oxathiapiprolin	0.02	2018	-	○	X		0.02	x		-	

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2. AS Group: Straw, Fodder and Forage of Cereal Grains and Grasses (including Buckwheat Fodder)(Straws and Fodder Dry)

Where there is a footnote for an entry referring to another commodity, that entry is not included in this group (e.g., corn fodder referring to maize fodder).

Code	Commodity name	Table Number in the Annex
AS 0161	Straw, fodder (dry) and hay of cereal grains and other grass-like plants	2.1
AS 0081	Straw and fodder (dry) of cereal grains	2.2
AS 0162	Hay or fodder (dry) of grasses	2.3
AS 0163	Straw of cereal grains	2.4
AS 0164	Fodder (dry) of cereal grains	2.5
AS 0447	Sweet corn fodder	2.15
AS 0640	Barley straw and fodder, dry	2.6
AS 0641	Buckwheat fodder	2.17
AS 0645	Maize fodder (dry)	2.14
AS 0646	Millet fodder, dry	2.12
AS 0647	Oat straw and fodder, dry	2.7
AS 0649	Rice straw and fodder, dry	2.11
AS 0650	Rye straw and fodder, dry	2.8
AS 0651	Sorghum straw and fodder, dry	2.13
AS 0653	Triticale straw and fodder, dry	2.9
AS 0654	Wheat straw and fodder, dry	2.10
AS 0657	Teosinte fodder	2.16

With a footnote "See Subgroup Hay or Fodder (dry) of Grasses"

AS 5241	Bermuda grass	-
AS 5243	Bluegrass	-
AS 5245	Brome grass	-
AS 5251	Darnel	-
AS 5253	Fescue	-

Fodder: Coarse feed for livestock animals, especially cattle, horses and sheep, such as straw, hay, maize stalks (stover) etc.

e.g. Maize forage: whole green plant, prior to maturity (including the immature or nearly mature cobs).

Maize fodder: stover or whole stalks (with ears removed) remaining after the harvest of the mature and sun-dried cobs

2.1 AS 0161 Straw, fodder (dry) and hay of cereal grains and other grass-like plants

- Residue data on straw/stover were used for recommending MRLs
- When there are data on both straw and hay, both were used for recommending MRLs.
- MRLs are recommended on a basis of combined dataset of multiple crops.
- For all the pesticides, straw data were submitted while there is no pesticide for which only hay data were submitted.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Chlorantraniliprole	30 (dw) Except maize and rice	2016	-	○	○		○?	30		DW	Based on the combined dataset of barley straw, wheat straw and sorghum stover (except maize and rice)
Cyantraniliprole	0.2	2013	-	○	○		0.2	0.2		DW	<i>On a dry weight basis</i> Based on the combined dataset of cereal and grass straws and hays (sorghum stover, rice straw, corn stover, brome grass hay, Bermuda grass hay, oat straw, wheat straw, oat hay, wheat hay and bluegrass hay)
Methomyl	10	2001	PR	x	○		x	10		DW	From the use of methomyl plus thiodicarb Based on the combined dataset of straw of barley, wheat and rice and stover and hay of sorghum
Sedaxane	0.1	2014	-	○	○		x	0.1		DW	Based on maize and sorghum stover, and the recommendation from the 2012 JMPR on the MRL for barley, oat, rye, triticale and wheat straw and fodder.

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.2 AS 0081 Straw and fodder (dry) of cereal grains

- Most of MRLs are based on straw data.
- Where there are data for both hay and straw, MRLs are based on hay data (except EMRL for lindane).
- Some MRLs are based on rotational crop studies.
- For no pesticides, data were submitted for hay only.

Pesticide	MRL (mg/kg)		JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
					Hay	Straw	Fodder	Hay	Straw	Fodder		
Azoxystrobin	15	Except maize & stover	2013	-	○	○		15	15		DW	Based on straw and hay of barley and oat and the recommendation of 2008 JMPR for “straw and fodder of cereal grains, except maize”, made on the combined dataset of barley, oat, rice, rye, triticale and wheat straw.
Boscalid	5	Except barley, oats, rye and wheat	2009	-	x	x		x	5		DW	Based on follow-up wheat straw
Cyclaniliprole	0.45	(dw)	2017	-	x	○		x	0.45		DW	Based on the wheat straw data from rotational crop studies and extrapolated to all other straw and fodder of cereal grains.
Cyhalothrin (includes lambda-cyhalothrin)	2		2007	PR	x	○		x	2		DW	Based on wheat straw data. Data were available for straw of barley, oat, rice, rye, triticale and wheat and fodder of maize
Cypermethrins (including alpha- and zeta- cypermethrin)	10		2008	PR	x	○		x	10		DW	Based on wheat straw (highest residues among barley, maize, oats, rice and wheat)
Cyproconazole	5	Except maize, rice & sorghum	2010	-	x	○		x	5		-	Based on wheat straw data. Data were available for barley, rye and wheat straw.
Cyprodinil	10		2003	-	x	○		x	10		DW	Based on the combined dataset of barley and wheat straw.

Dichlobenil	0.4 FL	2014	-	o	o		0.4	o		DW	Based on follow-up wheat hay
Diflubenzuron	1.5	2011	-	x	o		x	1.5		-	Based on the combined dataset of barley and wheat straw
Fludioxonil	0.06 (*)	2004	-	x	o		x	0.06		-	Based on barley, rye and wheat straw and sorghum, maize and sweet corn stover.
Fluopicolide	0.2	2009	-	x	o		x	0.2		DW	Based on follow-up wheat straw.
Flupyradifurone	40 (dw)	2016	-	o	o		40	o		DW	Based on the barely hay data. Residues to cover hays and straws/stovers of cereals. Data available for barley and wheat hay and straw, and sorghum and maize and sweet corn stover
Flusilazole	5 Except rice	2007	PR	x	o		x	5		DW	Based on the combined dataset of barley and wheat straw to extrapolate to rye straw.
Kresoxim-Methyl	3 (DM)	2018	PR	x	o		x	3		DW	Based on the combined dataset of barley and wheat straw. To replace the current CXL of 5 mg/kg recommended by the 1998 JMPR.
Lindane	0.01	2015	PR	o	o		0.01	0.01		DW	Recommended as EMRL On a basis of the data on wheat hay and straw provided to the 2003 JMPR and the USFDA data summary, it was concluded that it was unlikely for residues to be present above 0.01 mg/kg.
Myclobutanil	0.3	2014	PR	o	o		0.3	0.3		DW	Based on follow-up wheat hay and straw.
Pirimicarb	0.3 Except rice	2006	PR	x	o		x	0.3		-	Based on the combined dataset of barley straw, wheat straw, maize fodder
Prochloraz	40	2004	-	x	o		x	40		DW	Based on the data on barley, rye

											and wheat straw.	
Prothioconazole	4		2009	-	x	o		x	4		DW	Based on the combined dataset of barley and wheat straw (2008 JMPR evaluated the data on barley, oat, rye, triticale and wheat straw)(see also AS 0164)
Pyraclostrobin	30		2004	-	o	o		o?	30		DW	<i>On a dry weight basis.</i> Based on hay of barley and wheat. Data were also available for straw of barley and wheat. Confirmed by the 2011 JMPR.
Triadimefon	5	Except maize	2007	PR	x	o		x	5		-	Based on triadimefon and triadimenol uses
Triadimenol	5	Except maize	2007	PR	x	o		x	5			Based on the combined dataset of barley, oat, rye and wheat straw after foliar treatment.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.3 AS 0162 Hay or fodder (dry) of grasses

- Where there is any information on the data, all the MRLs are based on hay data as the data submitted were on hay only.
- The commodity name may be changed to “hay of grasses” without referring to “fodder”

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	400	1998	PR	○	x		400	x		-	Based on data on Bermuda grass, Fescue, Kentucky bluegrass, Mixed grass and Rangeland grass
Aminocyclopyrachlor	150	2014	-	○	x		150	x		DW	<i>Included in the recommendation table but not in the body of the 2014 JMPR Evaluation.</i>
Aminopyralid	70	2006	-	○	x		70	x		DW	
Bentazone	2	2013	PR	○	x		2	x		DW	
Dicamba	30	2010	-	○	x		30	x			
Diflufenzuron	3	2011	-	○	x		3	x		-	Based on the combined dataset of barley and wheat hay.
Flumioxazin	0.02 (*)	2015	-	x	x		x	x		x	<i>Not in the body of 2015 Evaluation, Report or Annex I. However, there are descriptions and MRL recommendation for wheat hay at 0.02 (*) mg/kg.</i>
Glyphosate	500	2005	PR	○	x		500	x		DW	
Imazapic	3	2013	-	○	x		3	x		-	
Imazapyr	6	2015	-	○	x		6	x		DW	
MCPA	500	2012	-	○	x		500	x		DW	
Pendimethalin	2500 (dw)	2016	-	○	x		2500	x		DW	
Saflufenacil	30	2016	-	○	x		30	x		DW	<i>On a dry weight basis</i>

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.4 AS 0163 Straw of cereal grains

- Only one MRL, insufficient for analysis. Based on straw data.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Aminopyralid	0.3	2006	-	x	o		x	0.3		DW	Based on the combined dataset of barley, oat and wheat straw and extrapolated to triticales.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.5 AS 0164 Fodder (dry) of cereal grains

- Only two MRLs, insufficient for analysis but both are based on hay data.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Aminopyralid	3	2006	-	o	x		3	x		DW	Based on wheat hay.
Prothioconazole	5	2009	-	o	x		5	x		DW	Based on the combined dataset of barley and wheat hay. (see AS 0081)

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.6 AS 0640 Barley straw and fodder, dry

- The majority of MRLs are based on straw data.
- Where there are data for both hay and straw, MRLs are based on hay data.
- There are a number of MRLs based on combined dataset of barley and wheat and/or other cereals.
- There is one MRL based on rotational crop data.
- For only one pesticide, data were submitted for hay only. For all others straw data were available.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	x		o?	0.3		DW	Extrapolated from follow-up oat straw
Aldicarb	0.05	1994	PR	x	o		x	0.05		-	Based on barley and wheat straw.
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	On a dry weight basis. Based on the combined dataset of barley and wheat straw
Benzovindiflupyr	15 (dw)	2016	-	o	o		o	15		DW	Based on the combined dataset of barley and wheat hay
Bicyclopyrone	0.8 (dw)	2017	-	o	o		0.8	o		DW	Based on residues in wheat hay.
Bifenthrin	0.5	2010		x	o		x	x		x	The 2010 JMPR withdrew the previous MRL of 0.5 mg/kg as no GAP was submitted. CCPR 43 decided to retain the CXL for 4 years. CCPR 48 agreed to retain awaiting the 2018 JMPR.
Bitertanol	0.05 (*)	1999	-	x	o		x	0.05		-	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20 (dw)	2016	-	x	o		x	20		DW	Based on a combined dataset of barley and wheat straw
Boscalid	50	2009	-	x	o		x	50		DW	On a dry weight basis. Based on the combined dataset of barley and wheat straw.

Carbendazim	2	C	1998	PR	x	o		x	2		-	
Chlormequat	50	(dw)	2017	PR	x	o		x	50		DW	
Clothianidin	0.2	T,c	2010	-	x	o		x	0.2		DW	
Dicamba	50		2010	-	x	o		x	50		DW	Based on the combined dataset of barley and wheat straw.
Diquat	40	(dw)	2018	PR	x	o		x	40		DW	Based on the combined dataset of straw of barley, oat and wheat. The GAP was common for barley, rye and triticale.
Disulfoton	3		1991	-	x	o		x	3		-	Only in the recommendation table for AS 0640 Barley straw
Dithiocarbamates	25	C,n	1993	PR	x	x		x	25		-	
Ethephon	7	(dw)	2015	PR	x	o		x	7		DW	
Famoxadone	5		2003	-	x	o		x	5		DW	
Fenbuconazole	3		1997	-	x	o		x	3		-	
Fenpropimorph	0.5		2017	PR	x	o		x	0.5		-	Based on a combined dataset of barley and wheat straw
Fluopyram	2		2017	-	x	o		x	2		DW	On a dry weight basis
Fluxapyroxad	30		2012	-	o	o		30	o		DW	Extrapolated from wheat hay
Glyphosate	400		2005	PR	x	o		x	400		DW	
Imazalil	0.01		2018	PR	o	o		0.01	0.01		DW	Based on residues in straw and whole plant without roots
Imazamox	0.05	(dw)	2017	-	x	o		x	0.05		DW	
Imazapyr	0.05	(dw)	2017	-	x	o		x	0.05		DW	
Imidacloprid	1		2002	-	x	o		x	1		DW	Based on straw of barley, oat, triticale and wheat.
Isoprazam	15	(dw)	2017	-	x	o		x	15		DW	Based on a combined dataset of barley and wheat straw
MCPA	50		2012	-	o	o		50	X		DW	On a dry weight basis. Extrapolated from wheat hay data.

Methiocarb	0.05	2005	-	o	x		0.05	X		DW	
Metrafenone	6	2014	-	x	o		x	6		DW	
Oxydemeton-Methyl	0.1	2004	-	x	o		x	0.1		-	Based on barley and wheat straw
Penthiopyrad	80 (DM)	2012	-	o	o		80	o		DW	Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7 (dw)	2017	-	o	o		7	o		DW	Based on a combined dataset of barley hay and wheat hay.
Pinoxaden	3 (dw)	2016	-	o	o		3	o		DW	Based on the combined dataset of barley and wheat hay.
Propiconazole	8	2014	PR	o	o		8	o		-	Based on barley hay
Quintozene	0.01 (*)	1998	PR	x	o		x	0.01			
Saflufenacil	10	2016	-	x	o		x	10		DW	<i>On a dry weight basis.</i> Based on the combined dataset of barley and wheat straw.
Sulfoxaflor	3	2011	PR	o	o		o	3		DW	Based on wheat straw residues (higher than barley hay/straw and wheat hay)
Tebuconazole	40	2011	PR	x	o		x	40		DW	Based on barley straw (highest among straw of barley, rye and wheat, and hay of wheat)
Thiamethoxam	2	2010	-	x	o		x	2		DW	
Trifloxystrobin	7	2004	-	x	o		x	7		DW	
Trinexapac-ethyl	0.9	2013	-	o	o		0.9	o		DW	Based on wheat hay

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

AS 0647 Oat straw and fodder, dry

- More than half of the MRLs are extrapolated from wheat or barley. However in one case, data on follow up oat straw is used for extrapolation to other cereals.
- Most of MRLs are based on straw data.
- Where there are data for both hay and straw, the MRL is based on hay data (one case)

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	○	○		○	0.3		DW	Only dry weight basis. Based on follow-up oat straw. It was extrapolated to barley, buckwheat, millet, rye and teosinte as well as to <u>triticale</u> (not included in Annex I or the database)
Bentazone	0.3	2013	PR	x	○		x	0.3		DW	<i>On a dry weight basis.</i> Extrapolated from the combined dataset of barley and wheat straw
Benzovindiflupyr	15 (dw)	2016	-	○	○		15	○?		DW	Extrapolated. Based on the combined dataset of "barley hay" and "wheat hay"
Bitertanol	0.05 (*)	1999	-	x	○		x	0.05		-	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20 (dw)	2016	-	x	○		x	20		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
Boscalid	50	2009	-	x	○		x	50		DW	Extrapolated. Based on the combined dataset of barley and wheat straw.
Chlormequat	7 (dw)	2017	PR	x	○		x	7		DW	

Disulfoton	0.05	1991	-	x	o		x	0.05		-	Only in recommendation table for AL 0647 Oat straw.
Fenpropimorph	0.5	2017	PR	X	o		x	0.5		-	Extrapolated. Based on the combined dataset of barley and wheat straw
Fluopyram	2	2017	-	X	o		x	2		DW	<i>On a dry weight basis</i> Extrapolated from the barley straw data
Fluxapyroxad	30	2012	-	X	x		30	o?		DW	Extrapolated from wheat hay data.
Glyphosate	100	2005	PR	X	o		x	100		DW	
Imidacloprid	1	2002	-	X	o		x	1		DW	Based on straw of barley, oat, triticale and wheat.
MCPA	50	2012	-	X	x		50	o?		DW	<i>On a dry weight basis.</i> Extrapolated from wheat hay data.
Metrafenone	6	2014	-	X	x		x	6		DW	Extrapolated from barley straw
Penthiopyrad	80 (DM)	2012	-	X	x		80	o		DW	Extrapolated. Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7 (dw)	2017	-	X	x		7	o?		DW	Extrapolated from MRL for barley and wheat straw and fodder, dry (based on the combined dataset of barley and wheat hay)
Propiconazole	8	2014	PR	o	o		8	?		-	Extrapolated from oat hay
Trinexapac-ethyl	0.9	2013	-	X	x		0.9	o?		DW	Extrapolated from wheat hay

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.7 AS 0650 Rye straw and fodder, dry

- The majority of MRLs are extrapolated from barley and wheat (and/or other cereals)
- One MRL is based on rotational crop study on oat.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	○	○		x	0.3		DW	On a dry weight basis. Extrapolated from follow-up oat straw
Bentazone	0.3	2013	PR	X	○		x	0.3		DW	On a dry weight basis. Extrapolated from the combined dataset of barley and wheat straw
Benzovindiflupyr	15 (dw)	2016	-	○	○		15	x		DW	Extrapolated. Based on the combined dataset of barley wheat hay
Bitertanol	0.05 (*)	1999	-	X	○		x	0.05		-	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20 (dw)	2016	-	X	○		x	20		DW	Extrapolated. Based on the combined dataset of barley and wheat straw
Boscalid	50	2009	-	X	○		x	50		DW	Extrapolated. Based on the combined dataset of barley and wheat straw.
Chlormequat	20 (dw)	2017	PR	X	○		x	20		DW	
Diquat	40 (dw)	2018	PR	X	○		x	40		DW	Extrapolated. Based on the combined dataset of straw of barley, oat and wheat. The GAP was common for barley, rye and triticale.
Ethephon	7 (dw)	2015	PR	X	x		x	7		-	Extrapolated from barley straw
Fenpropimorph	0.5	2017	PR	X	○		x	0.5		-	Extrapolated. Based on the combined dataset of barley and

											wheat straw
Fluopyram	23	2017	-	X	x		?	23		DW	<i>On a dry weight basis</i> Extrapolated from MRL for wheat straw and fodder, dry (based on straw data)
Fluxapyroxad	30	2012	-	X	x		30	x		DW	Extrapolated from wheat hay data
Imidacloprid	1	2002	-	X	o		x	1		DW	Based on straw of barley, oat, triticale and wheat (extrapolated?)
Isoprazam	15 (dw)	2017	-	X	o		x	15		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	X	x		50	x		DW	<i>On a dry weight basis.</i> Extrapolated from wheat hay data.
Metrafenone	10	2014	-	X	x		x	10		DW	Extrapolated from wheat straw
Oxydemeton-Methyl	0.1	2004	-	X	o		X	0.1		-	Extrapolated from barley and wheat straw
Penthiopyrad	80 (DM)	2012	-	X	x		80	o		DW	Extrapolated. Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7 (dw)	2017	-	X	x		7	o?		DW	Extrapolated from MRL for barley and wheat straw and fodder, dry (based on the combined dataset of barley and wheat hay)
Propiconazole	15	2014	PR	o	x	x	15	?		-	Extrapolated from wheat hay
Tebuconazole	40	2011	PR	x	o		x	40		DW	Based on barley straw (highest among straw of barley, rye and wheat, and hay of wheat)

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

AS 0653 Triticale straw and fodder, dry

- The majority of MRLs are extrapolated from barley and wheat (and/or other cereals)

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	<i>On a dry weight basis.</i> Extrapolated from the combined dataset of barley and wheat straw
Benzovindiflupyr	15 (dw)	2016	-	o	o		15	x		DW	Extrapolated. Based on the combined dataset of "barley hay" and "wheat hay"
Bitertanol	0.05 (*)	1999	-	x	o		x	0.05		DW	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg. Extrapolated
Bixafen	20 (dw)	2016	-	x	o		x	20		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
Chlormequat	80 (dw)	2017	PR	x	o		X	80		DW	Based on the residue data on wheat straw adjusted to the GAP for triticale.
Diquat	40 (dw)	2018	PR	x	o		X	40		DW	Extrapolated. Based on the combined dataset of straw of barley, oat and wheat. The GAP was common for barley, rye and triticale.
Ethephon	7 (dw)	2015	PR	x	x		X	7		-	Extrapolated from barley straw
Fenpropimorph	0.5	2017	PR	x	o		X	0.5		-	Extrapolated. Based on the combined dataset of barley and wheat straw
Fluopyram	23	2017	-	x	o		X	23		DW	<i>On a dry weight basis</i> Extrapolated from MRL for wheat straw and fodder, dry (based on straw data)

Fluxapyroxad	30	2012	-	x	x		30	x		DW	Extrapolated from wheat hay data
Imazalil	0.01	2018	PR	x	x		0.01	0.01		DW	Based on data on barley straw and whole plant without roots
Isoprazam	15 (dw)	2017	-	x	o		X	15		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	x	x		50	x		DW	<i>On a dry weight basis.</i> Extrapolated from wheat hay data.
Metrafenone	10	2014	-	x	x		X	10		DW	Extrapolated from wheat straw
Penthiopyrad	80 (DM)	2012	-	x	x		80	x		DW	Extrapolated. Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7 (dw)	2017	-	x	x		7	x		DW	Extrapolated from MRL for barley and wheat straw and fodder, dry (based on the combined dataset of barley and wheat hay)
Propiconazole	15	2014	PR	x	x		15	?		-	Only in the recommendation table. Possibly extrapolated from wheat hay.
Saflufenacil	10	2016	-	x	x		x	10		DW	Extrapolated. <i>On a dry weight basis.</i> Based on the combined dataset of barley and wheat straw.
Trinexapac-ethyl	0.9	2013	-	x	x		0.9	o		DW	Extrapolated from wheat hay

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

Special note:

- For acetochlor, an MRL for oat straw and fodder, dry was extrapolated to triticale straw and fodder, dry by the 2015 JMPR, but not in the Codex database.
- For imidacloprid, an MRL was proposed by the 2002 JMPR at 1 mg/kg based on the data on barley, oat, triticale and wheat, but not in the Codex database
- For fenbuconazole, an MRL was proposed by the 1997 JMPR (body of the 1997 JMPR Report) based on the residue data on wheat straw and fodder, dry. However, the MRL for rye straw and fodder, dry is not in the recommendation table of the 1997 JMPR.

AS 0654 Wheat straw and fodder, dry

- Most of MRLs are based on straw data.
- Where there are data on both hay and straw, the majority of MRLs are based on hay data but others on straw data .
- Where there are any data, straw data were submitted for all the pesticides.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	100	1998	PR	x	o		x	100		-	
Acetochlor	0.2	2015	-	x	o		x	0.2		DW	<i>On a dry weight basis.</i> Based on follow-up “wheat straw”
Aldicarb	0.05	1994	PR	x	o		x	0.05		-	Based on barley and wheat straw.
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	<i>On a dry weight basis.</i> Based on the combined dataset of barley and wheat straw
Benzovindiflupyr	15 (dw)	2016	-	o	o		o	15		DW	Based on the combined dataset of “barley hay” and “wheat hay”
Bicyclopyrone	0.8 (dw)	2017	-	o	o		o?	0.8		DW	Based on residues in barley hay
Bitertanol	0.05 (*)	1999	-	x	o		x	0.05		DW	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20 (dw)	2016	-	x	o		x	20		DW	Based on a combined dataset of barley and wheat straw
Boscalid	50	2009	-	x	o		x	50		DW	Based on the combined dataset of barley and wheat straw.
Carbaryl	30	2002	PR	x	o		x	30		DW	<i>On a dry weight basis</i>
Carbendazim	1 B,C	1998	PR	x	o		x	1		-	
Chlormequat	80 (dw)	2017	PR	x	o		x	80		DW	
Chlorpyrifos	5	2000	PR	x	o		x	5		DW	
Clothianidin	0.2 T,c	2010	-	x	o		x	0.2		DW	
Dicamba	50	2010	-	x	o		x	50		DW	Based on the combined dataset

											of barley and wheat straw.
Difenoconazole	3	2007	-	x	o		x	3		-	
Dimethoate	1	2003	PR	x	o		x	1		DW	<i>On a dry weight basis.</i>
Disulfoton	5	1998	-	x	o		x	5		-	
Dithiocarbamates	25 C,n,m	1993	PR	x	o		x	25		-	Based on mancozeb use.
Esfenvalerate	2	2002	-	x	o		x	2		DW	
Ethephon	7 (dw)	2015	PR	x	o		x	7		DW	Extrapolated from barley straw.
Famoxadone	7	2003	-	x	o		x	7		DW	
Fenbuconazole	3	1997	-	x	o		x	3		-	<i>This MRL was extrapolated to rye straw and fodder, dry according to the 1997 JMPR Report but the MRL for rye straw and fodder, dry is not in the recommendation table.</i>
Fenpropimorph	0.5	2017	PR	x	o		x	0.5		-	Based on the combined dataset of barley and wheat straw
Flonicamid	0.3	2015	-	x	o		x	0.3		-	
Flumioxazin	7 (dw)	2015	-	o	o		0.02*	7		DW	Based on straw. <i>There is another recommendation for wheat hay at 0.02 * mg/kg.</i>
Fluopyram	23	2017	-	o	o		o	23		DW	<i>On a dry weight basis</i> Based on straw data
Flutriafol	8	2011	-	x	o		x	8		-	
Fluxapyroxad	30	2012	-	o	o		x	30		DW	Based on hay data
Glyphosate	300	2005	PR	x	o		x	300		DW	
Imazalil	0.01	2018	PR	x	x		0.01	0.01		DW	Based on barley straw and whole plant without roots; to replace the current Codex MRL of 0.1 mg/kg.
Imazamox	0.05 (*)	2014	-	o	o		0.05(*)	0.05(*)		AR	
Imazapic	0.05 (*)	2013	-	x	o		x	0.05(*)		-	

)										
Imazapyr	0.05 (*)	2013	-	x	o		x	0.05(*)		-	
Imidacloprid	1	2002	-	x	o		x	1		DW	Based on straw of barley, oat, triticale and wheat
Isoprazam	15 (dw)	2017	-	x	o		x	15		DW	Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	o	o		x	50		DW	Based on wheat hay data
Methiocarb	0.05	2005	-	x	o		x	0.05		DW	
Methomyl	5	<1991		x	x		?	?		?	<i>There is another MRL for "AS 0161 Straw, fodder (dry) and hay of cereal grains and other grass-like plants" at 10 mg/kg recommended by the 2001 JMPR, which should cover wheat straw and fodder, dry. The MRL was adopted in 1991 and should have been replaced by the one for AS 0161.</i>
Metrafenone	10	2014	-	x	o		x	10		DW	
Oxydemeton-Methyl	0.1	2004	-	x	o		x	0.1		-	Based on barley and wheat straw.
Penthiopyrad	80 (DM)	2012	-	o	o		80	x		DW	Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7 (dw)	2017	-	o	o		x	7		DW	Based on a combined dataset of barley hay and wheat hay.
Pinoxaden	3 (dw)	2016	-	o	o		3	o		DW	Based on the combined dataset of barely and wheat hay.
Propiconazole	15	2014	PR	o	o		x	15		-	Based on wheat hay.
Quintozene	0.03	1998	PR	x	o		x	0.03		-	
Saflufenacil	10	2016	-	x	o		x	10		DW	<i>On a dry weight basis.</i> Based on the combined dataset of barley

											and wheat straw.
Spinosad	1	2001	-	o	o		x	1		DW	<i>On a dry weight basis.</i> Based on the combined dataset of hay and straw.
Sulfoxaflor	3	2011	PR	o	o		o	3		DW	<i>On a dry weight basis.</i> Based on wheat straw residues (higher than barley hay/straw and wheat hay)
Tebuconazole	40	2011	PR	o	o		o	40		DW	Based on barley straw (highest among straw of barley, rye and wheat, and wheat hay)
Thiacloprid	5	2006	-	x	o		x	5		DW	
Thiamethoxam	2	2010	-	x	o		x	2		DW	
Trifloxystrobin	5	2004	-	x	o		x	5		DW	
Trinexapac-ethyl	0.9	2013	-	o	o		o?	0.9		DW	Based on wheat hay data

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.8 AS 0649 Rice straw and fodder, dry

- Except one pesticide, all other MRLs are based on straw data.
- Except that one, for which hay data were available, straw data were submitted for all other pesticides.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	10	1998	PR	x	o		x	10		-	
Abamectin	0.001	2015	PR	x	o		x	0.001		-	Whole plants including grain with husks were analyzed.
Acephate	0.3	2011	PR	x	o		x	0.3		-	
Carbaryl	120	2002	PR	x	o		x	120		DW	<i>On a dry weight basis</i>
Carbendazim	15 C	1998	PR	x	o		x	15		DW	
Carbofuran	1	2002	PR	o	x		1	x		DW	
Carbosulfan	0.05 (*)	2003		x	o		x	0.05 (*)?		-	<i>The 2003 JMPR Report indicates, "too few trials to make a recommendation." However, the residues from 2 trials were <0.01 mg/kg.</i>
Cyantraniliprole	1.7 (dw)	2018	-	x	o		x	1.7		DW	
Cycloxydim	0.09	2012	PR	x	o		x	0.09(*)		DW	
Difenoconazole	17 (dw)	2017	-	x	o		x	17		DW	
Diflubenzuron	0.7	2002	PR	x	o		x	0.7		DW	
Dinotefuran	6	2012	-	x	o		x	6		-	
Etofenprox	0.05	2011	PR	x	o		x	0.05		-	
Fipronil	0.2	2001	PR	x	o		x	0.2		DW	
Fluopyram	17	2017	-	o	o		o	17		DW	<i>On a dry weight basis. Based on residues in straw</i>
Flutolanil	10	2002	-	x	o		x	10		DW	

Fluxapyroxad	50 (dw)	2015	-	x	o		x	50		DW	
Glufosinate-Ammonium	2	2012	PR	x	o		x	2		AR	
Imazamox	0.01 (*)	2014	-	x	o		x	0.01(*)		AR	
Imazethapyr	0.15 (* (dw))	2016	-	x	o		x	0.15(*)		DW	
Methamidophos	0.1	2011	-	x	o		x	0.1			Based on the use of acephate
Paraquat	0.05	2009	PR	x	o		x	0.05		-	
Pyraclostrobin	5 (dw)	2018	-	x	o		x	5		DW	
Quinclorac	8 (dw)	2017	-	x	o		x	8		DW	
Spinetoram	1.5	2017	-	x	o		X	1.5		DW	On a dry weight basis.
Sulfoxaflor	20	2018	-	x	o		X	20		-	
Trifloxystrobin	10	2004	-	x	o		X	10		DW	
Triflumezopyrim	0.4 (dw)	2017	-	x	o		X	0.4		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.9 AS 0646 Millet fodder, dry

- MRLs are extrapolated or based on rotational crop data.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	x		X	0.3		DW	<i>On a dry weight basis.</i> Based on follow-up oat straw.
Bentazone	0.3	2013	PR	x	o		X	0.3		DW	<i>On a dry weight basis.</i> Extrapolated from the combined dataset of barley and wheat straw
Penthiopyrad	10 (DM)	2012	-	x	o		X	10		DW	Extrapolated. Based on sorghum stover

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.10 AS 0651 Sorghum straw and fodder, dry

- Most of MRLs are based on stover data.
- Where there is information, data on straw were available for all but one pesticides.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Aldicarb	0.5	1994	PR	x	o		X	0.5		-	
Azoxystrobin	30	2013	-	x	o		X	30		DW	On a dry weight basis. Based on stover
Carbofuran	0.5	1997	PR	x		o	x	0.5		DW	
Chlorpyrifos	2	2000	PR	x	o		x	2		DW	Based on stover
Clothianidin	0.01 (*) C	2010	-	x	o		x	0.01(*)		DW	Based on stover
Dicamba	8	2010	-	x	o		x	8		DW	Based on stover
Dimethenamid-P	0.01 (*)	2005	-	x	o		x	0.01 (*)		-	Fodder means the mature plant (without roots) except grain, sampled at normal grain harvest.
Flutriafol	7	2015	-		o		x	7		DW	Based on stover
Fluxapyroxad	7 (dw)	2015	-	x	o		x	7		DW	Based on stover
Glyphosate	50	2005	PR	o	o		x	50		DW	Based on stover
Paraquat	0.3	2004	PR	o		o	0.3?	x	0.3?	DW	On a dry weight basis. Based on hay or fodder data whichever higher.
Penthiopyrad	10 (DM)	2012	-	x	o		x	10		DW	Based on stover
Permethrin	20	<1991		?	?		?	?		?	
Saflufenacil	0.05	2011	PR	x	o		x	0.05		-	
Sulfoxaflor	0.7	2018	-	x	o		x	0.7		-	Based on stover
Terbufos	0.3	2005	PR	x	o		x	0.3		DW	On a dry weight basis. Based on stover.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.
d/ DW, dry weight basis; and AR, as received.

2.11 AS 0645 Maize fodder (dry)

- Most of MRLs are based on stover.
- Where information is available, data were submitted for straw/stover for all the pesticides except one
- For that one pesticide, hay data were available but for all others hay data were not available
- It may be possible to use the term “stover” clearly defined or some related term.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	40	1998	PR	x		o	x	40		-	
Aldicarb	0.5	1994	PR	o	x		0.5?	x		DW	Based on stover.
Azoxystrobin	40	2008	-	x	x	o	x	x	40	DW	
Bentazone	0.4	2013	PR	x	o		x	0.4		DW	<i>On a dry weight basis</i>
Bicyclopyrone	0.5	2017	-	x	o		x	0.5		DW	<i>On a dry weight basis. Based on a combined dataset of corn crops (stover)</i>
Bifenthrin	15	2010	PR	x	o		x	15		DW	
Carbaryl	250	2002	PR	x	o		x	250		DW	<i>On a dry weight basis. Based on stover of field corn and sweet corn</i>
Chlorpyrifos	10	2000	PR	x	o		x	10		DW	Based on stover. Data on sweet corn stover were available but with lower residues.
Clothianidin	0.01 (*) T	2010	-	x	o		x	0.01(*)		DW	Based on stover
Cycloxydim	2	2012	PR	x	o		x	2		DW	Based on stover (rest of plant without roots)
Cyproconazole	2	2010	-	x	o		x	2		-	
Dicamba	0.6	2010	-	x	o		x	0.6		DW	Based on stover
Dimethenamid-P	0.01 (*)	2005	-	x	o		x	0.01 (*)		-	Fodder means mature stalks and leaves, without cobs sampled at normal harvest

Disulfoton	3	1991	-	x	o		x	3		DW	<i>On a dry weight basis.</i>
Dithiocarbamates	2 C	1993	PR	x	o		x	2		-	
Fenpyroximate	5	2017	PR	x	o		x	5		-	Based on stover
Fipronil	0.1	2001	PR	x	o		x	0.1		DW	
Flumioxazin	0.02 (*)	2015	-	x	o		x	0.02(*)		DW	Based on stover.
Fluopyram	18	2017	-	x	o		x	18		DW	<i>On a dry weight basis.</i> Based on residues in stover
Flutriafol	20	2015	-	x	o		x	20		DW	Based on stover.
Fluxapyroxad	15	2012	-	x	o		x	15		DW	Based on stover
Glufosinate-Ammonium	8	2012	PR	x	o		x	8		AR	<i>On a fresh weight basis.</i> Based on stover.
Glyphosate	150	2005	PR	x	o		x	150		DW	Based on stover
Imazethapyr	0.1 (*) (dw)	2016	-	x	o		x	0.1(*)		DW	
Imidacloprid	0.2	2002	-	x	o		x	0.2		DW	Based on stover
Indoxacarb	25	2005	-	x	o		x	25		DW	Based on sweet corn stover data
Isoxaflutole	0.02 (*)	2013	-	x	o		x	0.02(*)		-	Based on stover (plant after removal of cobs/kernels)
MCPA	0.3	2012	-	x	o		x	0.3		DW	Based on stover
Methoxyfenozide	60	2003	-	x	o		x	60		DW	<i>On a dry weight basis.</i> Based on sweet corn stover
Oxathiapiprolin	0.01 (*)	2018	-	x	o		x	0.01(*)		-	Based on stover
Paraquat	10	2004	PR	x		o	x		10	DW	<i>On a dry weight basis.</i> Based on fodder
Penthiopyrad	10 (DM)	2012	-	x	o		x	10		DW	Extrapolated. Based on sorghum stover data
Permethrin	100	<1991		?	?		?	?		?	<i>No information found</i>
Picoxystrobin	20 (dw)	2017	-	x	o		x	20		DW	Based on stover
Prothioconazole	15	2017	-	x	o		x	15		DW	<i>On a dry weight basis.</i> Based on

											the combined dataset of maize and sweet corn stover.
Quintozene	0.01	1998	PR	x		o	x	0.01		-YY	
Saflufenacil	0.05	2011	PR	x	o		x	0.05		-	
Spinosad	5	2001	-	x	o		x	5		DW	Based on sweet corn stover
Spiromesifen	6	2016	-	x		(stover)	x	6		DW	On a dry weight basis.
Sulfoxaflor	0.6	2018	-	x	o		x	0.6		-	Based on stover
Terbufos	0.2	2005	PR	x	o		x	0.2		DW	On a dry weight basis Based on stover
Thiamethoxam	0.05	2010	-	x	o		x	0.05		DW	
Tioxazafen	0.03 (DM)	2018	-	x	o		x	0.03		DW	Based on stover
Trifloxystrobin	10	2004	-	x	o		x	10		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

Special note: The 2010 JMPR recommended an MRL for maize fodder at 25 mg/kg (dw) based on maize stover data. The recommendation is in the body of the 2010 Report and the recommendation table but not in the Codex database.

2.12 AS 0447 Sweet corn fodder

- Mostly based on stover.
- There are 9 MRLs whose information was not found in the JMPR Evaluations or Reports. There was no record of adoption of these MRLs by the Commission. After further investigation using the reports of the Codex Alimentarius Commission and CCPR, and working documents prepared for CCPR sessions containing MRLs, it was found that these MRLs seem inadvertently replaced the MRLs for AB 0226 Apple pomace, dry (adopted by the Commission) at the same values. This problem shall be solved even though this problem does not relate to the revision of classification.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetamiprid	40	2015	-	x	o		x	40		DW	<i>On a dry weight basis. Based on stover</i>
Acetochlor	1.5	2015	-	x	o		x	1.5		DW	<i>On a dry weight basis. Based on stover.</i>
Bicyclopyrone	0.5 (dw)	2017	-	x	o		x	0.5		DW	Based on the combined dataset of corn crops (stover)
Difenoconazole	0.01 (* (dw))	2017	-	x	o		x	0.01*		DW	Based on stover
Fenarimol	5	1995 1996		x	x		?	?		?	<i>The Codex database includes this MRL. No information was found in JMPR Evaluations. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>

Fenbuconazole	1	2009		x	x		?	?		?	<i>The Codex database indicates the CXL as recommended by the 2009 JMPR. However, no description is found in the body and recommendation table of the 2009 JMPR. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
Fludioxonil	20	2005		x	x		?	?		?	<i>The Codex database includes this MRL. Neither the recommendation table of the 2004 JMPR or 2006 JMPR Evaluation includes MRL for sweet corn fodder. The body of the 2004 JMPR Report mentions sweet corn fodder without recommendation. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
Flusilazole	2	2007		x	x		?	?		?	<i>While the Codex database includes this CXL from the 2007 JMPR, there is no description about this in the body or recommendation table of the 2007 JMPR Report. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
Imidacloprid	5	2002		x	x		?	?		?	<i>While the Codex database includes this MRL, there is no description about sweet corn fodder in the 2002 JMPR Evaluation. There is an MRL for</i>

											<i>AB 0226 apple pomace, dry at the same value.</i>
Methoxyfenozide	7	2003		x	x		?	?		?	<i>On a dry weight basis. Based on stover (not in the recommendation table). There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
Novaluron	40	2005		x	x		?	?		?	<i>While the Codex database includes this MRL, No description in the body or recommendation table of the 2005 JMPR Evaluation. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
Permethrin	50	<1991		?	?		?	?		?	No information was found
Prothioconazole	15	2014	-	x	o		x	15		DW	<i>On a dry weight basis. Based on the combined dataset of maize and sweet corn stover.</i>
Pyrimethanil	40	2007		x	x		x	x		?	<i>The Codex database includes this CXL from the 2007 JMPR. However, there is no description about this MRL in the body or recommendation table of the 2007 JMPR Evaluation. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
Spinetoram	0.15	2017	-	x	o		x	0.15		DW	<i>On a dry weight basis. Based on stover</i>
Spirodiclofen	4	2009		x	x		x	x		?	<i>The Codex database includes this CXL from the 2009 JMPR. However, neither the body nor the recommendation table</i>

											<i>includes any description about sweet corn fodder. There is an MRL for AB 0226 apple pomace, dry at the same value.</i>
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a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.16 AS 0657 Teosinte fodder

- Only one MRL, insufficient for analysis. Extrapolation from follow-up oat straw.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	x		x	0.3		DW	<i>On a dry weight basis.</i> Extrapolated from the MRL from follow-up oat straw.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.17 AS 0641 Buckwheat fodder

- Only one MRL, insufficient for analysis. Extrapolation from follow-up oat straw.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	X		x	0.3		DW	<i>On a dry weight basis.</i> Extrapolated from MRL from follow-up oat straw.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

3. AM Group: Miscellaneous Fodder and Forage (Fodder)

Where there is a footnote referring to another group, subgroup or commodity, that commodity is not included in this group.

Code	Commodity name	Table Number in the Annex
AM 0165	Miscellaneous fodder and forage crops	-
AM 0353	Pineapple fodder	-
AM 0497	Swedish turnip or Swede fodder	-
AM 0506	Turnip fodder	3.3
AM 0659	Sugar cane fodder	3.2
AM 0691	Cotton fodder, dry	3.1
AM 0738	Mint hay	Excluded from this Annex
AM 1051	Fodder beet	Excluded from this Annex
AM 5255	Mangel or Mangold	-
AM 5256	Mangoldwurzel	-

3.3 AM 0691 Cotton fodder, dry

- This MRL should be moved under “cotton gin trash”.

Pesticide	MRL (mg/kg)	JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if “fodder” is removed			Dry weight ? ^{d/}	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Indoxacarb	20	2005	-	x	o		x	20		DW	Based on cotton gin trash data

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

3.2 AM 0659 Sugar cane fodder

- Need to consider whether to retain these MRLs which are based on sugar cane forage.

Pesticide	MRL (mg/kg)				JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
							Hay	Straw	Fodder	Hay	Straw	Fodder		
Ethoprophos	0.02	(*)			2003	PR	x	o		x	0.02(*)		-	<i>Recommended for sugar cane forage</i>
Isoxaflutole	0.01	(*)			2013	-	x	x		0.01(*)?	x		-	<i>Based on sugar cane forage</i>

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

3.3 AM 0506 Turnip fodder

- There is only one MRL, insufficient for analysis
- Based on rotational crop studies on root and tuber vegetables.

Pesticide	MRL (mg/kg)				JMPR (year) ^{a/}		Data available for ^{b/} :			MRL (mg/kg) ^{c/} , if "fodder" is removed			Dry weight? ^{d/}	Note to MRL/ Description of commodities
							Hay	Straw	Fodder	Hay	Straw	Fodder		
Cyantraniliprole	0.02				2013	-	x	o		x	0.02		-	Based on rotational crop studies on root and tuber vegetables.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.